Computational Sciences Division

Integration of Information From Multiple Images

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http://ic.arc.nasa.gov/ic/projects/bayes-group/

Presented to
NASA Office of Earth Science

For the
Advanced Information Systems Technology Development Meeting

January 12, 1999

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Computational Sciences Division

Outline

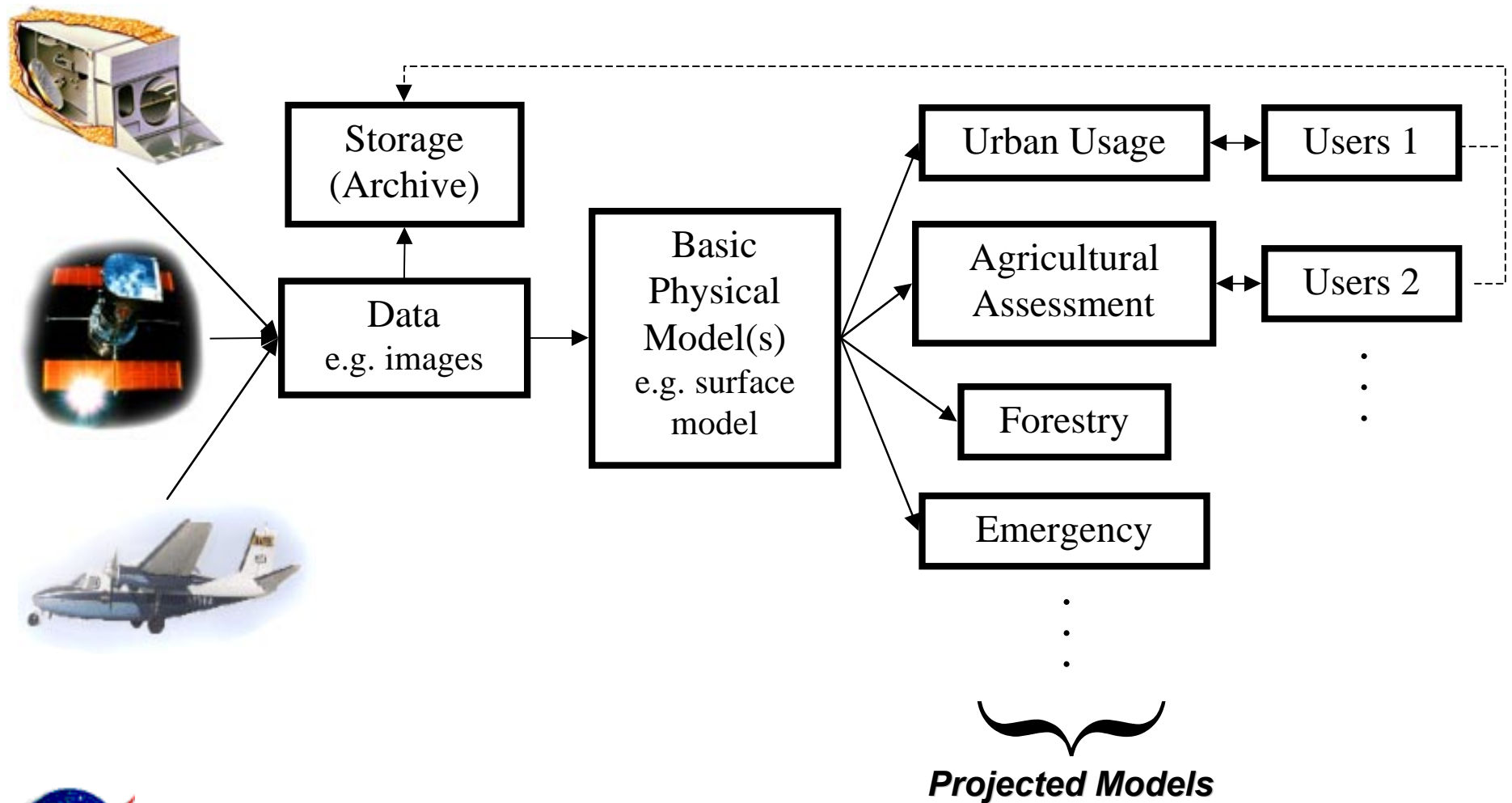- **Overview of Earth Sciences information flow**
- **Bayesian approach to information integration / modeling**
- **Bayesian surface modeling from multiple images**
  - **2D – Same viewpoint**
  - **3D – Different viewpoints and illuminations**
  - **Multispectral**
  - **Super-Resolution**
- **Limitations**
  - **Atmospheric effects (clouds, haze, particulates, …)**
  - **Ultimate resolution**
- **Extension (future)**
  - **Unsupervised classification of ground cover types**
  - **SAR, ground measurements**
  - **Atmospheric modeling**

Overview of Information Integration and Use

Storage (Archive)

Data e.g. images

Basic Physical Model(s) e.g. surface model

Urban Usage ↔ **Users 1**

Agricultural Assessment ↔ **Users 2**

Forestry

Emergency

Projected Models